ESTABLISHED AUTOMOTIVE AND INDUSTRIAL

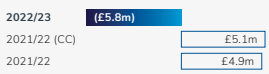
Established Automotive and Industrial is a trusted partner for OEMs and tier one suppliers across the transportation industry. With over 100 years of engineering experience in the design, building and testing of conventional powertrains, it is helping global clients with bridging technologies to support the shift to decarbonised transport solutions. Demand for Established A&I services is driven by global decarbonisation targets and compliance with emissions standards, especially in heavy duty and defence markets.

> Trusted expertise in delivering efficient, integrated propulsion systems while addressing environmental concerns.

HIGHLIGHTS*

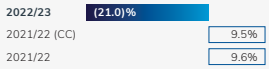
-2%
Order intake

-214%
Underlying operating profit



+7%
Order book

-30.5pp
Underlying operating profit margin



-48%
Revenue

-25%
Headcount

* Prior period results have been restated to reflect the fact that a share of central plc costs are no longer included in the operating profit measure for operating segments. See **Note 5** to the Group Financial Statements.

Industry expertise across the transport industry from concept to production

We have deep experience in partnering with OEMs and tier one suppliers across automotive, commercial vehicle, off highway, defence and marine market sectors. We apply innovative tools and processes – refined over a century of mobility engineering experience – to enable faster design and validation of efficient propulsion systems and reduced whole life costs. This includes systems optimisation, design upgrades of existing platforms and complete clean sheet vehicle design through to production.

- **Propulsion systems engineering** – design, development, testing and calibration of conventional powertrain and drivetrain solutions
- **Rapid realisation** – rapid prototype, demonstrators and ultra low volume vehicles from concept to manufacture

Transition to zero emissions propulsion

Our expertise in internal combustion engine design is facilitating energy transition and decarbonised transport by adapting traditional combustion technologies to apply innovative and sustainable fuels, such as hydrogen. We are helping clients with this transition by navigating challenges relating to changes in emissions legislation, such as Euro 7, where the Ricardo Vehicle Emissions Research Centre (VERC) and Advanced Propulsion Research Centre (APRC) support clients achieve such standards.

Our performance in FY 2022/23

Established Automotive and Industrial order intake was £36.2m, a decrease of 2% on a constant currency basis in FY 2022/23. Significant programmes included a highly customised fleet of vehicles for London's Metropolitan Police, driveline systems development for defence vehicle applications in Asia Pacific as well as engine calibration work for off-highway machines and passenger car vehicles to ensure compliance with future emissions legislation.

Revenue decreased by 48% year-on-year on a constant currency basis. Revenue decline was driven by the reduced demand for services in this area which led to management implementing the structural changes announced in the first half and carried out in the second half.

Underlying operating loss was £5.8m, a decrease of 214% compared to FY 2021/22 on a constant currency basis. Underlying operating profit margin decreased by 31pp. Operating profit performance is expected to improve in FY 2023/24, due to the significant restructuring actions taken in order to rebase the business appropriately.

CASE STUDY

NEXT GENERATION ENGINE FOR LIGHT DUTY VEHICLES

Ricardo worked with Achates Power to develop the next generation of opposed piston gasoline compression ignition engines for light duty vehicles. Funded by the US Government's ARPA-E, the project 'BERYL' aims to create a fuel efficient, lightweight engine that offers improved efficiency, while meeting emissions targets.

Ricardo has undertaken design and systems integration, achieving a target of 60% weight reduction. The team expects that, when fully developed, this engine will achieve an improvement of up to 20% over baseline in fuel economy and deliver an unadjusted corporate average fuel economy and combined 35 MPG for a full sized pickup truck, alongside diesel like torque from a gasoline engine.